



VOLUME 21 NUMBER 3

MISSOURI DEPARTMENT OF NATURAL RESOURCES

THIRD QUARTER 2014

GeoSTRAT – Online Tool Makes Debut



Earlier this year, the Geological Survey launched GeoSTRAT, the Geosciences Technical Resource Assessment Tool. This tool makes geologic and hydrologic data available to citizens, contractors, industry representatives and others online, 24/7.

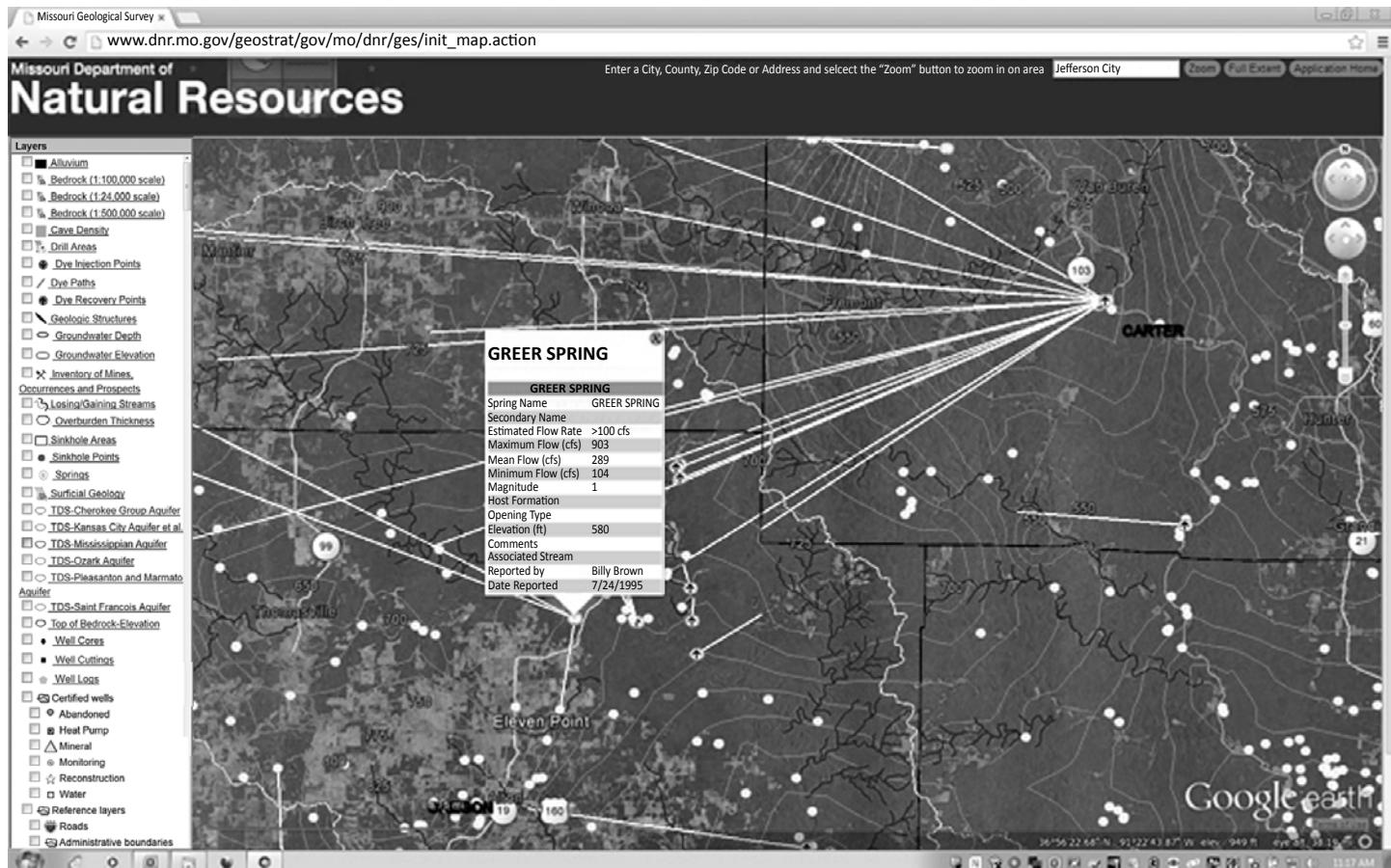
An Internet connection, a Web browser, and the free Google Earth Plug-in are needed to use GeoSTRAT. GeoSTRAT is best viewed using Google Chrome or Mozilla Firefox browsers.

GeoSTRAT can be used to locate wells, drilling areas, geologic logs and much more using the interactive map. It can be used for data assessments in various disciplines such as geologic assessments, environmental consulting and engineering, local and regional planning and others.

Data also can be downloaded in formats compatible with a variety of free and commercial mapping software, including Google Earth.

Give it try! Visit dnr.mo.gov/geology/geostrat.htm and proceed to GeoSTRAT. For example, turn on the “Certified wells” layer (listed in the browser on the left) and type your address, a city, county or Zip code in the upper right search box, hit the zoom button, and click on individual wells to learn more about them. Well type, use, reference number and construction records can be viewed easily. GeoSTRAT also has 3-D viewing capabilities for added visualization of the land surface.

For additional information about GeoSTRAT, contact the Missouri Geological Survey at 573-368-2100.



Stakeholder Meetings Scheduled

Stakeholder meetings continue across the state to provide industry and individuals opportunity to meet with staff to provide comments about proposed amendments to the Missouri Well Construction Rules.

Scheduled meetings and proposed rulemakings are listed on the Rules in Development Web page [dnr.mo.gov/geology/geosrv/geo-rules-in-dev.htm].

Dates, locations and draft language are provided, when available. Dates may be subject to change.

It is important for stakeholders to attend one or more of these meetings. The topic of the meeting is listed for each group. Questions should be directed to Sheri Fry. Additionally, comments may be submitted in writing to [sherifry@dnr.mo.gov](mailto:sheri.fry@dnr.mo.gov).

Receive Updates About Rules and Section Services

Did you know you can sign up to receive updates regarding multiple topics related to the Wellhead Protection section? Our GovDelivery system allows website visitors to subscribe to information of specific interest to them. Red envelope icons are available on many of the department's Web pages identifying this service as being available. Individuals are able to create a personalized subscription list of content. When this content changes, such as rule updates, GovDelivery automatically sends email or text alerts informing subscribers. To get started, go to the Wellhead Protection section Web page located at dnr.mo.gov/geology/geosrv/wellhd/ and click on the red envelope, enter your email address or sign in via social media and choose the topics for which you would like to receive updates. In addition to topics related to wellhead protection, subscribers may select from numerous other topics. Questions regarding this feature should be directed to 573-368-2165.



Wellhead Protection Section

We are here to ensure any new private well drilled in Missouri is constructed to minimum standards as set by state regulations.

This helps protect our groundwater resources from contamination due to poor well construction. We regulate the construction of private water wells (this includes domestic and multiple family class wells), irrigation wells, monitoring wells and heat pump wells. In addition, we regulate how to properly plug all types of wells. Our job is to balance the concerns of the land owner and the driller, while at the same time performing our overall directive of protecting Missouri's vast underground water supply from contamination due to improper construction and abandonment of wells.



Welcome Contractors

The following individuals are now part of the Missouri Department of Natural Resources' permitted contractor community:

3D Dycus Diamond Drilling – Eddie Hearell
Cardno ATC – Marco Vallotto, Theresa Ferguson
County of Jefferson – Kerry Rogers, David Crisel
England Mechanical Services – Frank England
Heise Heating & Cooling – Jeremy Heise, Wayne Saupe
MODNR – Christy Miner
Schumer Bros Inc. – Gary Schumer
True North Consultants – Sean Brady

Welcome Apprentice Contractors

The following individuals are now part of the Missouri Department of Natural Resources' permitted apprentice contractor community:

Carthage Pump – Ricky Roberts
Flynn Drilling – Artney Lewis
Feth Well Pump & Service – Michael Kluba, Vernon Feth
Irrigation Central – John Henson, Charles Allred,
James Ross
Lebanon Pump and Drilling – Ethan Replogle,
Dustin Marks
Lincoln Pump – Douglas Washburn
T.C. Pump – Robert Button, Samuel Keller,
Geoffrey Cantrell
Rustemeyer Plumbing & Heating – Mark Rustemeyer

Farewell

The people addressed below are no longer permitted to operate as contractors according to the Water Well Drillers Act and Missouri Well Construction Regulations:

Flynn Drilling – Jack Neusus
Fresh Air Weinrich Heat & Cool – Michael Sinn
Fugro Consultants – Glenn Johnson
Hardy Sales & Service - Paul Roach
J E Dunn – Curt Elliott, Dwight Davis
MO Solar Applications – Scott Williams
Pense Bros Drilling – William Morris
Radbuilders – Sean Rose
Tetra Tech Inc. – Danielle Wilson

What type of well should I drill?

When it comes to determining what type of well should be installed for a small development, church or other small business, a couple of things should be kept in mind. As the drilling contractor, it may be best to assume the landowner does not know the rules for public water usage and the type of well needed. A small subdivision serving more than 25 people requires a community well. A campground serving more than 25 campers a few times a year may only need a multi-family well. An apartment complex that has 10 units may need either a multi-family or community well depending on the number of people living in the building.

When there is any doubt whether a public well is required, call the department's regional office for direction. The regional office helps implement the Safe Drinking Water Act, which governs the design, installation and operation of public water systems, including community and non-community systems. Wellhead Protection section staff works with regional office and Public Drinking Water Branch staff to ensure proper construction of public wells. The map below lists the regional and satellite offices locations and phone numbers. Additionally, see this Web page at dnr.mo.gov/regions/regions.htm.

Permits and Vehicles Renewable Online

For your convenience, permit and vehicle cards may be renewed online by going to dnr.mo.gov/mowells and selecting the "Renew Permits" option. This option is available only for those who have no changes (address, phone number, permit type, etc.) that need to be made on their permit, provided no outstanding violations exist. Within 60 days before or 30 days after the renewal date, contractors can pay for permits, vehicle cards and late fees that have been assessed. Contractors must print their permit and vehicle cards before leaving the web site, because it is not possible to return to the site to print cards after leaving the site.

Questions should be addressed to Sheri Fry or Jeannie Hoyle.

The screenshot shows the Wellhead Online Services page. At the top, there's a navigation bar with links like 'File', 'Edit', 'View', 'Favorites', 'Tools', 'Help', and several tabs for different types of records. Below the navigation is the Missouri Department of Natural Resources logo and the 'Wellhead Online Services' heading. A 'Main Menu' dropdown is open, showing three items: 'Search for Well or Pump Installation Contractors', 'Search the Well Information Management System (WIMS)', and 'Contractor Login Required'. Under 'Contractor Login Required', there's a bulleted list of services: 'Renew Permits', 'Submit Closed Loop Heat Pump Certification Records', 'Submit Monitoring Well Certification Records', 'Submit Monitoring Well Registration Records', 'Submit Plugging Registration Records', 'Submit Pump Records', 'Submit Well Reconstruction Records', and 'Submit Water Well Certification Records'. Arrows point from the text 'Renew Permits' to the first item in the list and from the text 'Wellhead Online Services' to the 'Contractor Login Required' section. At the bottom of the page, there's a footer with the Missouri Department of Natural Resources logo, address (P.O. Box 250, Rolla MO 65402), phone number (1-800-361-4627 / (573) 368-2165), and email (WellDrilling@dnr.mo.gov).

TESTING
in
PROGRESS

Contractor and Apprentice Well and Pump Installation Testing Schedule

All tests begin at 9 a.m.

The following 2014 testing dates are scheduled at the Missouri Geological Survey, 111 Fairgrounds Road, Rolla.

August 13, 2014

September 17, 2014

October 15, 2014

November 19, 2014

December 17, 2014

Testing dates may be modified if necessary.

Please bring a picture ID with you to the testing site.

If you are applying for a non-restricted permit, please be sure to bring your global positioning unit (GPS) and operating manual to the test site. Your GPS unit should be programmed to read in degrees, minutes, and seconds in accordance with 10 CSR 23-3.060(5).

If you have questions concerning this schedule or testing please call 573-368-2450. Persons with disabilities who may require special services may contact Jeannie Hoyle at the number above.

Well Installation Board News

The Well Installation Board held its quarterly meeting Friday, May 2, 2014, at 10 a.m., in the Mozarkite Conference Room, Missouri Geological Survey, in Rolla. The Board received program and section updates and updates about proposed rulemakings. Due to scheduling conflicts, the Board voted to change the date of the August meeting.

The next quarterly meeting is scheduled for 10 a.m., Friday, August 22, 2014, at the MoDOT Southeast District Office, in Sikeston. The November meeting will be held at 10 a.m., Friday, November 21, 2014, in the Mozarkite Conference Room, Missouri Geological Survey, 111 Fairgrounds Road, in Rolla.

Charitable or Benevolent Organization Wells

In August 2011, a law was passed changing the requirements for a well drilled for a charitable or benevolent organization (COBO). Section 640.116, RSMo, allows COBOs to install a multi-family well, rather than a public well, if they meet certain usage requirements outlined in the law. The change only affects the type of well being constructed. All other public water system requirements and regulations remain in place. Most water systems that qualify for this law are classified as transient non-community public water systems.

The following procedure was created to address this type of well.

1. A well contractor or well owner wishing to install a COBO well should contact the appropriate regional office to discuss the requirements for a new public water supply. A fact sheet will be sent to the contractor or owner explaining the COBO well process and obligations for the contractor or well owner.
 2. The regional office staff will verify with the owner that the system will not:
 - A. Serve more than an average of 100 people at least 60 days of the year,
 - B. Serve a school or daycare,
 - C. Connect to other buildings that are not part of or owned by the COBO.
- If any of these conditions apply to the system, it is not eligible for multi-family well construction standards.
3. With the exception of well construction requirements, the regional office will manage the system no differently than any other new transient non-community public water system. The organization must register as a public water system and will be subject to sampling and site investigations.
 4. All construction details relating to the public water system

are managed by the Missouri Department of Natural Resources' Public Drinking Water Branch (PDWB) through the permitting process. Construction details relating to the well, per multi-family well standards, are managed by Wellhead Protection section staff in consultation with PDWB staff.

5. When the well is completed, the well contractor must submit the COBO well certification form to WHP and include their signature as well as the owner's signature attesting that the well will serve a charitable or benevolent organization. This form is online at dnr.mo.gov/forms/780-2185-f.pdf. Please note the contractor must submit this form, not a domestic/multi-family well form or a public well/high yield record.
6. When all required components have been submitted, WHP will review the well certification form to ensure it meets the minimum construction standards for multi-family wells as outlined in the Missouri Well Construction Rules (10 CSR 23-3.030(12)). If the well was constructed properly, a certification number will be issued. A certification letter will be sent to the owner and a copy of the certification form. Additionally, related documentation will be sent to the appropriate regional office and PDWB.
7. The well owner must then submit a permit-to-dispense application [\[dnr.mo.gov/forms/780-2122-f.pdf\]](http://dnr.mo.gov/forms/780-2122-f.pdf) to PDWB. Regional office staff will perform a final well and water system inspection and submit this information to PDWB who will review this and all other required information before issuing a permit to dispense.

Questions should be directed to Airin Haselwander, the department's Public Drinking Water Branch at 573-751-5331, or the regional office in your area [\[dnr.mo.gov/regions/regions.htm\]](http://dnr.mo.gov/regions/regions.htm).

Why Does My Well Need a GPS location?

The well certification process requires accurate reporting of locations of wells drilled in the state. The collection of Global Positioning System, or GPS, data can provide the most precise location information available. Reliable data is vital for the protection of the state's water and other natural resources. Most importantly, collection of GPS data is required by regulation, 10 CSR 23-3.060.

To certify most wells, the well and corresponding pump records are matched using GPS data and other location information. If information is missing or inaccurate, certifying a well becomes difficult, and at times, impossible.

With increasing technological advances, hand held GPS units have become more accurate and very affordable. Several GPS applications are available for smartphones, some for little or no cost, which makes gathering GPS coordinate data for well and pump locations very easy and economical.

The department provides several online tools that can help to ensure the accuracy of GPS coordinates for well locations. The Geographic Information System (GIS) "Check Location" tool: dnr.mo.gov/gisutils/ can be used to find the correct county, convert



GPS coordinates from another format to degrees, minutes and seconds, and provide a visual comparison to ensure that the GPS coordinates plot in the location where the well was drilled. Another useful tool is the Missouri Geological Survey Geosciences Technical Resource Assessment Tool, known as GeoSTRAT [dnr.mo.gov/geostrat/]. GeoSTRAT is useful for a variety of purposes including searching for existing wells and information in an area to confirm GPS coordinates, along with other location information such as legal description and county.

Legislative Update

During the 2014 legislative session, the Geological Survey Program tracked several bills that potentially could impact the Well Installation Board, groundwater protection, the well drilling industry or other related topics. These include:

House Bill (HB) 2006: This bill contains appropriations (spending authority) for the Missouri Department of Natural Resources. This bill became law upon signature of the Governor.

Senate Bill (SB) 507 and SB 667: These bills both contained a similar provision that would prohibit appointed members of boards and commissions from serving more than 60 days beyond the expiration of their terms. Neither bill passed.

HB 1946: This bill provided that "... no political subdivision by rule, regulation, order, or ordinance may prevent a property owner from constructing a private domestic well if the construction is allowed under state law. ..." This bill did not pass.

HB 1872: This bill proposed to "... prohibit a seller or lessor in a sales or lease transaction or any credit card issuer from imposing a surcharge on a consumer using a credit card for the transaction. ..." This bill did not pass.

See the General Assembly's website for additional information about these and other bills: moga.mo.gov/.

Reporting Abandoned Wells

Abandoned wells can present a safety hazard or pose a health concern by providing conduits for contaminants to move from the surface, through the earth's protective formations, into deeper aquifers. As a result, abandoned wells must be plugged, and we encourage everyone to report abandoned wells.

There are several ways to report an abandoned well, including the following:

- Call Wellhead Protection section staff at 573-368-2165,
- Email the well location information to welldrillers@dnr.mo.gov,
- Fax the well location information to 573-368-2317, or
- Use the DNR online environmental concern form at dnr.mo.gov/concern.html.

Please note that reporting may be done anonymously. A GPS reading of the well location is preferred when reporting.

Abandoned wells are numerous and can be found in every county in Missouri. Some have been used for illegal waste dumping. Abandoned wells come in many forms, such as the well's use has been discontinued permanently; the well is in such disrepair its continued use for obtaining groundwater is impractical; the well was left uncompleted; or the well was constructed improperly. Whatever the reason, ALL abandoned wells must be plugged.

Groundwater is one of Missouri's most precious natural resources. Missouri well construction and plugging requirements help protect our groundwater resources from contamination due to poor well construction. You can help protect groundwater quality by reporting abandoned wells.

Online Information and Procedural Changes

The Wellhead Protection section continues to make more services and data available online.

Wellhead Online Services may be accessed at dnr.mo.gov/mowells. At this website, anyone may search for contractors and certified records. Contractors may log in and submit monitoring well certification and registration, reconstruction, heat pump and water well certification, pump and plugging registration records, as well as renew operating and vehicle permits. Soon, online testing for a restricted permit will be available. Note: When using the online system to submit records, the checkout process must be completed in order for the record to be entered in our system, even if no payment is due.

Recent procedural changes include the following:

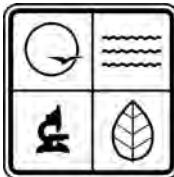
- Forms are now single sheets and no longer have carbon copies.
- Owner signatures are no longer required for well certification.
- A user fee is being assessed when payment is made by credit card or electronic check. This fee is imposed by the credit card company and does not go to the department.

Funds Available to Plug Abandoned Wells

Missouri has 114 soil and water conservation districts that provide cost-share incentives to landowners all across the state for several practices, including plugging abandoned wells. The cost-share of \$400 per decommissioned well applies to wells that are drilled, dug, driven, bored or otherwise constructed vertical water wells that are subject to agricultural nonpoint source contamination. This cost-share program is funded by the one-tenth-of-one-percent parks, soils and water sales tax and administered through local soil and water conservation districts. By properly managing and plugging wells, local soil and water conservation districts are working to protect Missouri's water for years to come.

Landowners should call or visit their county's local soil and water conservation district office for information about the cost-share program and to begin the process of improving their farms through conservation practices. To find district offices, call 800-361-4827 or visit dnr.mo.gov/env/swcp/.





Missouri Department of Natural Resources
Missouri Geological Survey
Wellhead Protection
PO Box 250
Rolla, MO 65402-0250

PRSRT STD
U.S. POSTAGE PAID
JEFFERSON CITY, MO
PERMIT NO. 440

Wellhead Protection Section Staff **573-368-2165**

- **Kyle Rollins – Section Chief**
Management of section, regulations, policy and rulemaking.
573-368-2171 • kyle.rollins@dnr.mo.gov
- **Justin Davis – Investigation and Remediation Unit Chief**
Field investigation and remediation, variances, casing depths, well construction and abandonment information.
573-368-2167 • justin.davis@dnr.mo.gov
- **Sheri Fry – Compliance and Enforcement**
Regulations, enforcement, policy, rulemaking and legislation.
573-368-2115 • sheri.fry@dnr.mo.gov
- **Christy Miner – Processing Unit Chief**
Information regarding pending enforcement letters, permitting and testing.
573-368-2174 • christy.miner@dnr.mo.gov
- **Airin Haselwander - Geologist**
Public Water Systems, pilot holes, casing depths and variances.
573-368-2196 • airin.haselwander@dnr.mo.gov
- **Eric Hohl – Technical Assistant**
Water well construction and certification information and abandonment registration information.
573-368-2168 • eric.hohl@dnr.mo.gov

Staff Website: dnr.mo.gov/geology/geosrv/wellhd/job.htm
Well Online Services: dnr.mo.gov/mowells/

- **Jeannie Hoyle – Permitting Clerk**
Permitting, testing and apprentice information.
573-368-2450 • jeannie.hoyle@dnr.mo.gov
- **Brad Mitchell – Geologist**
Field investigation, well construction information, variances and casing depths.
573-368-2116 • brad.mitchell@dnr.mo.gov
- **Matt Parker – Geologist**
Field investigation, well construction, Special Area 2, variances and casing depths.
573-368-2170 • matt.parker@dnr.mo.gov
- **Karen Smith – Section Secretary**
General information, fee letters, requests for forms and publications.
573-368-2165 • karen.smith@dnr.mo.gov
- **Vacant – Correspondence Clerk**
Matching of well and pump records, correspondence requesting information.
573-368-2318
- **Vacant – Technical Assistant**
Heat pump construction and certification information and technical assistance, abandonment information
573-368-2159